E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XC655]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Replacement of Pier 3 at Naval Station Norfolk in Norfolk, Virginia

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; modification of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued a modified incidental harassment authorization (IHA) to the U.S. Navy to incidentally harass, by Level A and Level B harassment, marine mammals during construction activities associated with the replacement of Pier 3 at Naval Station Norfolk at Norfolk, Virginia.

DATES: This Authorization is effective from the date of issuance through March 31, 2023.

FOR FURTHER INFORMATION CONTACT: Kim Corcoran, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the original application and supporting documents (including **Federal Register** notices of the original proposed and final authorizations, and the previous IHA), as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act*. In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the "take" of marine mammals, with certain exceptions. sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq*.) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed incidental take authorization may be provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stocks for taking for certain subsistence uses (referred to in shorthand as "mitigation"); and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

History of Request

On March 15, 2022, NMFS issued an incidental harassment authorization (IHA) to the Navy to incidentally harass, by Level A and Level B harassment only, marine mammals during construction activities associated with the Pier 3 Replacement Project at Naval Station (NAVFAC) Norfolk in Norfolk, Virginia (87 FR 15945; March 21, 2022). Species authorized for take included humpback whale (*Megaptera novaeangliae*), bottlenose dolphin (*Tursiops truncatus*), harbor porpoise (*Phocoena phocoena*), harbor

seal (*Phoca vitulina*), and gray seal (*Halichoerus grypus*). The effective dates of this IHA are April 1, 2022 through March 31, 2023.

On July 29, 2022, NMFS received a request from the Navy for a modification to the Pier 3 Replacement project IHA due to a change in the construction contractor's plan to include concurrent pile driving and drilling activities. During consultation for the initial IHA, the Navy did not anticipate the need for concurrent activities in the first year of work. This IHA covers 1 year of a larger project for which the Navy has submitted a request for a Letter of Authorization (LOA) (87 FR 60998; October 7, 2022) for additional work occurring from April 1, 2023 through March 31, 2028. However, the construction contractor has since determined that in order to meet the scope requirements and dates to complete the pier, concurrent activities will be necessary within the first year of construction. Therefore, the Navy is requesting, and NMFS is modifying the 2022 IHA to include concurrent pile driving and drilling activities. This change may increase both Level A and Level B harassment isopleths and result in an increased estimate of exposures by Level B harassment for bottlenose dolphin and by Level A harassment for harbor seal. NMFS has determined that the changes also necessitate revised shutdown mitigation provisions for concurrent pile driving scenarios for all species. The monitoring and reporting measures remain the same as prescribed in the initial IHA, and no additional take is requested nor authorized for other species.

Description of the Activity and Anticipated Impacts

The modified IHA will include the same construction activities (*i.e.,* impact pile driving, vibratory pile driving and removal, and drilling) in the same locations that were described in the initial IHA. The monitoring and reporting measures remain the same as prescribed in the initial IHA, while revisions to the required mitigation measures have been made. NMFS refers the reader to relevant documents related to issuance of the initial IHA, including the Navy's application, the notice of proposed IHA and request for

comments (87 FR 3976; January 26, 2022), and notice of issued IHA (87 FR 15945; March 21, 2022) (available at *https://www.fisheries.noaa.gov/action/incidental-take-authorization-replacement-pier-3-naval-station-norfolk-norfolk-virginia*) for more detailed description of the project activities.

Detailed Description of the Action

A detailed description of the construction activities is found in the aforementioned documents associated with issuance of the initial IHA. The location, time of year, and nature of the activities, including the types of piles and methods of installation and removal are identical to those described in the previous documents. However, as noted in the **History of Request** section, the Navy anticipates that concurrent pile driving will be necessary to complete year one activities on time. Potential concurrent activity scenarios for year one can be found in Table 1. For individual pile driving activities, the Level A and Level B harassment zones remain unchanged (see initial IHA (87 FR 3976; January 26, 2022)), however for concurrent pile driving scenarios harassment zones increased. Therefore, the larger harassment zone for each scenario was used to calculate exposure estimates as well as to determine appropriate shutdown zones.

Table 1. Potential Concurrent Activity Scenarios

Scenario Locations	Concurrent Scenarios	Total Equipment Quantity	Equipment (Quantity)	Number of Days
Pier 3T and Pier 4	Vibratory extract 14-inch timber or 18-inch concrete piles at Pier 3T and vibratory extract 14-inch timber piles at Pier 4	2	Vibratory Hammer (2)	16
Pier 3T and Pier 4	Vibratory extract 14-inch timber or 18-inch concrete piles at Pier 3T and impact install 24-inch concrete piles	3	Vibratory Hammer (2), Impact Hammer (1)	41
Pier 3T and Pier 4	Vibratory extract 14-inch timber or 18-inch concrete piles at Pier 3T and rotary drill 24-inch concrete piles	3	Vibratory Hammer (2), Rotary Drill (1)	30

Pier 3T, CEP-176, and CEP-102	Vibratory extract 14-inch timber or 18-inch concrete piles at Pier 3T, vibratory or impact install 42-inch pipe piles at CEP-176 and CEP-102	3	Vibratory Hammer (2), Impact Hammer (1)	34
Pier 3T and CEP-176	Vibratory extract 14-inch timber or 18-inch concrete piles at Pier 3T, vibratory or impact install 42-inch pipe piles at CEP-176, and vibratory or impact install 28-inch sheet pile at CEP-176	3	Vibratory Hammer (2), Impact Hammer (1)	67
Pier 3T and Pier 3	Vibratory extract 14-inch timber and or 18-inch concrete piles at Pier 3T and impact hammer 24-inch concrete	2	Vibratory Hammer (1), Impact Hammer (1)	13
Pier 3T and Pier 3	Vibratory extract 14-inch timber or 18-inch concrete piles at Pier 3T and rotary drill 24-inch concrete	2	Vibratory Hammer (1), Rotary Drill (1)	33

Comments and Responses

A notice of NMFS's proposal to modify the Navy's IHA was published in the **Federal Register** on December 9, 2022 (87 FR 75600). That notice described, in detail, the Navy's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 15-day public comment period, NMFS received no comments. There have been no changes from the proposed to final modified IHA.

Description of Marine Mammals

A description of the marine mammals in the area of the activities is found in these previous documents, which remains applicable to this modified IHA as well. In addition, NMFS has reviewed the 2021 Stock Assessment Reports (Hayes *et al.,* 2022), information on relevant Unusual Mortality Events, and recent scientific literature, and determined that no new information affects our original analysis of impacts under the

initial IHA. (Note that the Potential Biological Removal of the gray seal Western North Atlantic stock increased from 1,389 to 1,458, and annual mortality and serious injury of the harbor porpoise Gulf of Maine/Bay of Fundy stock decreased from 217 to 164).

Potential Effects on Marine Mammals and their Habitat

A description of the potential effects of the specified activities on marine mammals and their habitat may be found in the documents supporting the initial IHA, which remains applicable to the issuance of this modified IHA. NMFS is not aware of new information regarding potential effects.

Estimated Take

A detailed description of the methods and inputs used to estimate authorized take for the specified activity are found in the notice of issuance of the initial Pier 3 Replacement IHA (87 FR 15945; March 21, 2022). The types and sizes of piles, installation methods, and marine mammal stocks taken remain unchanged from the initial IHA. The modification includes concurrent pile driving activities which could result in increased SPLs and harassment zone sizes given the proximity of the component driving sites and the physical rules of decibel addition. The Navy anticipates that concurrent use of up to three hammers producing continuous noise could occur on 70 days. Given that the use of more than one hammer for pile installation and removal on the same day (whether simultaneous or not) will increase the number of piles installed per day, this would be anticipated to result in a reduction in total number of days of pile installation. Table 1 shows potential scenarios for concurrent pile driving. However, as described further below, the Navy has conservatively calculated take for both individual and concurrent pile driving scenarios and requested authorization of take for the most conservative scenario.

NMFS (2018b) analyzes overlapping sound fields created by the use of more than one hammer differently for impulsive (impact hammer and Level A harassment zones for

drilling with a Down-the-Hole (DTH) hammer) and continuous sound sources (vibratory hammer and Level B harassment zones for drilling with a DTH hammer; Table 7) and differently for impulsive sources with rapid impulse rates of multiple strikes per second (DTH) and slow impulse rates (impact hammering) (NMFS 2021). It is unlikely that the two impact hammers would strike at the same instant, and therefore, the SPLs would not be adjusted regardless of the distance between impact hammers. In this case, each impact hammer would be considered to have its own independent harassment zones.

When two continuous noise sources, such as vibratory hammers and drills, have overlapping sound fields, there is potential for higher sound levels than for non-overlapping sources. When two or more vibratory hammers are used simultaneously, and the isopleth of one sound source encompasses the isopleth of another sound source, the sources are considered additive and source levels are combined using the rules in Table 2.

Table 2. Rules for Combining Sound Source Levels Generated During Pile Installation

Hammer types	Difference in SSL	Level A zones	Level B zones
Vibratory, Impact	Any	Use impact zones	Use largest zones
Impact, Impact	Any	Use zones for each pile size and number of strikes	Use zone for each pile size
Vibratory, Vibratory or Vibratory, Drilling	0 or 1 dB	Add 3 dB to the higher source level	Add 3 dB to the higher source level
	2 or 3 dB	Add 2 dB to the higher source level	Add 2 dB to the higher source level
	4 to 9 dB	Add 1 dB to the higher source level	Add 1 dB to the higher source level
	10 dB or more	Add 0 dB to the higher source level	Add 0 dB to the higher source level

During pile driving, it is common for pile installation to start and stop multiple times as each pile is adjusted and its progress is measured and documented, though as stated above, for short durations, it is anticipated that multiple hammers could be in use simultaneously. Following the rules for combining sound source levels, decibel addition calculations were carried out for each possible concurrent pile driving scenario. The

source levels included in Table 3 are used to estimate the Level A harassment zones and Level B harassment zones. No addition is warranted for impact pile driving in combination with vibratory.

Table 3. Revised Proxy Values for Simultaneous Use of Non-Impulsive Sources

Scenario Location	Activity and Proxy	Revised Proxy
Pier 3T and Pier 4	Vibratory Extract 14-inch timber at Pier 3T – 162 dB RMS Vibratory extract 14-inch timber Pier 4 – 162 dB RMS	165 dB RMS
	Vibratory Extract 18-inch concrete piles at Pier 3T – 162 dB RMS Vibratory Extract 14-inch timber piles at Pier 4 – 162 dB RMS	165 dB RMS
	Vibratory extract 14-inch timber piles at Pier 3T -162 dB RMS Vibratory extract 18-inch concrete Piles at Pier 3T – 162 dB RMS Rotary drill 24-inch concrete piles at Pier 4 – 154 dB RMS	166 dB RMS
Pier 3T, CEP-176, and CEP-102	Vibratory extract 14-inch timber at Pier 3T – 162 dB RMS Vibratory install 42-inch pipe at CEP-176 or CEP-102 – 168 dB RMS	169 dB RMS
	Vibratory extract 18-inch concrete at Pier 3T – 162 dB RMS Vibratory install 42-inch pipe at CEP-176 or CEP-102 – 168 dB RMS	169 dB RMS
Pier 3T and Pier 3	Vibratory extract 14-inch timber at Pier 3T – 162 dB RMS Rotary drill 24-inch concrete piles at Pier 4 – 154 dB RMS	163 dB RMS
	Vibratory extract 18-inch concrete at Pier 3T – 162 dB RMS Rotary drill 24-inch concrete piles at Pier 4 – 154 dB RMS	163 dB RMS

The size of the Level A harassment zones and Level B harassment zones using the source levels in Table 3 result in larger isopleths (see Table 4 for isopleth distances) compared to individual activities.

Table 4. Level A and Level B Harassment Isopleths for Concurrent Pile Driving Scenarios

Activity	Pile Location	Scenario	Source Level	Level A (m)				Level B (m/km2)
				LF	MF	HF	Phocids	
Vibratory Pile Extraction	Pier 3T and pier 4	Remove two 14-inch timber piles	165	51	5	75	31	10000
Vibratory Pile Extraction	Pier 3T and pier 4	Remove 18-inch concrete and 14-inch timber piles	165	51	5	75	31	10000
Vibratory Pile Extraction and Drilling	Pier 3T and pier 4	Remove 14-inch timber and 18-inch concrete piles at Pier 3T and rotary drill for 24-inch concrete piles at Pier 4	166	59	5	87	36	11659
Vibratory Pile Extraction and Drilling	Pier 3T, CEP-176, and CEP-102	Remove 14-inch timber at Pier 3T and install 42-inch pipe at either CEP-176 or CEP-102	169	194	17	287	118	18479
Vibratory Pile Extraction and Drilling	Pier 3T, CEP-176, and CEP-102	Remove 18-inch concrete at Pier 3T and install 42-inch pipe at either CEP-176 or CEP-102	169	194	17	287	118	18479
Vibratory Pile Extraction and Drilling	Pier 3T and Pier 3	Remove 14-inch timber piles at Pier 3T and rotary drill for 24-inch concrete piles at new Pier 3	163	43	4	64	26	7356
Vibratory Pile Extraction and Drilling	Pier 3T and Pier 3	Remove 18-inch concrete piles at Pier 3T and rotary drill for 24-inch concrete piles at new Pier 3	163	43	4	64	26	7356

With the exception of bottlenose dolphins, which is the only species where densities and harassment isopleths are used to determine take estimates as opposed to local occurrence data, the total taking by Level B harassment of all species is predicted to be the same or lower with concurrent activity scenarios due to a decrease in number of construction days (see Table 5 for calculated take estimate comparison), therefore the

authorized take for these species remains unchanged from the initial IHA to account for the most conservative scenario. As stated in the initial Pier 3 IHA (87 FR 15945; March 21, 2022), the total take number for all species, except bottlenose dolphin, were estimated using local occurrence data, therefore take estimates were determined by multiplying the number of pile driving days by assumed daily occurrence for each species. As the number of pile driving days under concurrent scenarios is lower than the number of days anticipated for individual activities, the calculated takes were lower than what was originally authorized through the initial IHA. Please see the notice of issuance for the initial Pier 3 IHA (87 FR 15945; March 21, 2022) for a detailed explanation of how take estimates were calculated for individual pile driving activities for these species.

The total take number for bottlenose dolphin was estimated using inshore seasonal densities provided in Engelhaupt *et al.* (2016) from vessel line-transect surveys near NAVSTA Norfolk and adjacent areas near Virginia Beach, Virginia from August 2012 through August 2015. This density includes sightings inshore of the Chesapeake Bay from NAVSTA Norfolk west to the Thimble Shoals Bridge, and is the most representative density for the project area. NMFS multiplied the density of 1.38 dolphins per square kilometer by the Level B harassment zone area for each activity for the project, and then by the number of days associated with that activity (see Table 1). The Level B harassment zones increased as a result of concurrent pile driving activities; therefore, calculated Level B harassment exposure estimates also increased as a result. As described in the notice of the initial proposed and issued IHA, there is insufficient information on relative abundance to apportion the takes precisely to each of the three stocks in the area. Therefore, the same approach as used in previous projects (*e.g.,* Hampton Roads Bridge Tunnel project (86 FR 17458; April 2, 2021), and the U.S. Navy Norfolk Maintenance Rule (86 FR 24340; May 6, 2021)) was used to estimate the appointment of takes to each of the three bottlenose dolphin stocks that may be present in

the area. Given that most of the Northern North Carolina Estuarine Stock (NNCES) are found in the Pamlico Sound Estuary, over 160 kilometers from Norfolk, we conservatively estimated that no more than 200 of the requested takes will be from this stock. Since members of the northern migratory coastal and southern migratory coastal stocks are thought to occur in or near the Bay in greater numbers, we conservatively assume that no more than half of the remaining takes will accrue to either of these stocks. Additionally, a subset of these takes will likely be comprised of the Chesapeake Bay resident dolphins, although the size of that population is unknown.

With the exception of harbor seals, the total taking by Level A harassment of all species is predicted to be the same or lower with the concurrent activity scenario given the decreased number of pile driving days anticipated and therefore the authorized take by Level A harassment remains unchanged from the initial IHA to be conservative. To remain consistent with the calculations used to determine take by Level A harassment for harbor seals in the proposed rulemaking for years two through five of the Navy's Pier 3 Replacement project (87 FR 60998; October 7, 2022), the Navy has requested to increase the number of takes by Level A harassment for harbor seals to reflect the potential of one seal per day (of 13.6 seals per day occurrence), or 20 percent of the total taking, to remain within the Level A harassment area and within the shutdown zone for sufficient prior to detection that Level A harassment will actually occur. Similar methodologies were applied for gray seal which resulted in no estimated change in the number of takes by Level A harassment.

The total numbers of incidental takes by Level A harassment and Level B harassment, including updated Level A harassment numbers for harbor seal and Level B harassment numbers for bottlenose dolphin, are shown in Table 5. The total number of takes (Level A harassment and Level B harassment combined) has not changed for harbor seal because the additional takes by Level A harassment are assumed to occur to

animals that would have previously been counted as taken by Level B harassment. Therefore, NMFS is proposing to reduce the authorized Level B harassment take of harbor seal by the same amount that the Level A harassment estimate is increased.

Table 5. Total Numbers of Authorized Takes by Level A and Level B Harassment and as a Percentage of the stock

Species	Stock	Level A Harassment	Level B Harassment	Total Taking	Percent of Stock
Humpback whale	Gulf of Maine [a]	0	12	12	0.9
Bottlenose dolphin [b, c, d]	WNA Coastal, Northern Migratory	0	14841	14841	223.5
	WNA Coastal, Southern Migratory	0	14841	14841	395.7
	Northern NC Estuarine	0	200	200	24.3
Harbor porpoise	Gulf of Maine/Bay of Fundy	10	12	22	0.0
Harbor seal	WNA[e]	152	1092	1244	2.0
Gray seal	WNA	1	2	3	0.0

a West Indies DPS. Please see the Description of Marine Mammals in the Area of Specified Activities section in the initial IHA for further discussion.
b Takes estimates are weighted based on calculated percentages of population for each distinct stock, assuming animals present will follow the same probability of presence in the project area. Please see the **Small Numbers** section for additional information.
c Assumes multiple repeated takes of the same individuals from a small portion of each stock as well as repeated takes of Chesapeake Bay resident population (size unknown). Please see the **Small Numbers** section for additional information.
d Total authorized takes by Level B harassment increased from 14,989 in the initial IHA to 29,882.
e Total authorized takes by Level A harassment increased from 16 in the initial IHA to 152, however the total take (1244) has not increased.

Description of Mitigation, Monitoring and Reporting Measures

With the exception of the revised shutdown provisions for concurrent pile driving scenarios discussed below, the monitoring and reporting measures described here are identical to those included in the initial Pier 3 IHA (87 FR 15945; March 21, 2022).

In addition to the measures described later in this section, the Navy will employ the following mitigation measures:

- Avoid direct physical interactions with marine mammals during

construction activity. If a marine mammal comes within 10 meters of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction;

- The Navy will conduct trainings between construction supervisors and crews and the marine mammal monitoring team prior to the start of all activities subject to this IHA and when new personnel join the work, to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures; and
- Pile driving activity must be halted upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the harassment zone.

The following monitoring measures apply to the Navy's in water construction activities:

- *Protected Species Observers (PSOs)* – The placement of PSOs during all pile driving, removal, and drilling activities will ensure that the entire shutdown zone is visible. Should environmental conditions deteriorate such that the entire shutdown zone will not be visible (*e.g.,* fog, heavy rain), pile driving, removal, and drilling must be delayed until the PSO is confident marine mammals within the shutdown zone could be detected;
- *Monitoring for Level A and Level B Harassment* – The Navy will monitor the Level B harassment zones to the extent practicable, and all of the Level A harassment zones. The Navy will monitor at least a portion of the Level B harassment zone on all pile driving, removal, or drilling days. Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring

zones enable observers to be aware of and communicate the presence of marine mammals in the project area outside the shutdown zone and thus prepare for a potential cessation of activity should the animal enter the shutdown zone;

- *Pre-activity Monitoring* – Prior to the start of daily in water construction activity, or whenever a break in pile driving/removal of 30 minutes or longer occurs, PSOs will observe the shutdown and monitoring zones for a period of 30 minutes. The shutdown zone will be considered cleared when a marine mammal has not been observed within the zone for that 30 minute period. If a marine mammal is observe within the shutdown zones listed in Table 6, pile driving, removal, and drilling activities must be delayed or halted. If pile driving, removal, and/or drilling is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zones or 15 minutes have passed without re-detection of the animal. When a marine mammal for which Level A harassment take is authorized is present in the Level B harassment zone, activities may begin and Level B harassment take will be recorded. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones will commence. A determination that the shutdown zone is clear must be made during a period of good visibility (*i.e.,* the entire shutdown zone and surrounding waters must be visible to the naked eye);

- *Soft Start* – Soft start procedures are used to provide additional protection to marine mammals by providing and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, contractors will be required to provide an initial set of three strikes from the hammer at reduced energy, followed by a 30-second waiting period, then two subsequent reduced energy strike sets. Soft start will be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or

longer;

- *Reporting* – PSOs must record specific information as described in the **Federal Register** notice of the issuance of the initial IHA (87 FR 15945; March 21, 2022). Within 90 days after completion of pile driving and removal activities, the Navy must provide NMFS with a monitoring report which includes summaries of recorded takes and estimates of the number of marine mammals that may have been harassed. If no comments are received by NMFS within 30 days, the draft final report will constitute the final report. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments; and
- *Establishment of Shutdown Zones* – The Navy will establish shutdown zones for all pile driving, removing, and drilling activities. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity will occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Shutdown zones will vary based on the activity type and marine mammal hearing group (Table 6). For every pile driving activity, shutdown is mandatory whenever an animal is within 10 m of a pile driving location. In such instances, in-water pile driving operations may only continue after 15 minutes have passed or the animal is seen heading away from the 10 m shutdown zone.

Table 6. Shutdown Zones (m) During Concurrent Pile Driving Scenarios (Shutdown Zones for Individual Pile Driving Activities Remain Unchanged from the Initial IHA)

Activity	Shutdown Zones		
	Humpback whale*	Harbor porpoise	Dolphins and Seals
Vibratory Remove two 14-inch timber piles	55	55	35
Vibratory Remove 18-inch concrete and 14-inch timber piles	55	55	35
Vibratory Remove 14-inch timber and 18-inch concrete piles at Pier 3T and rotary drill for 24-inch concrete piles at Pier 4	60	60	35

Vibratory Remove 14-inch timber at Pier 3T and Vibratory install 42-inch pipe at either CEP-176 or CEP-102	200	200	50
Vibratory Remove 18-inch concrete at Pier 3T and Vibratory install 42-inch pipe at either CEP-176 or CEP-102	200	200	50
Vibratory Remove 14-inch timber piles at Pier 3T and rotary drill for 24-inch concrete piles at new Pier 3	45	45	30
Vibratory Remove 18-inch concrete piles at Pier 3T and rotary drill for 24-inch concrete piles at new Pier 3	45	45	30

*Shutting down to the maximum distance to the Level A harassment threshold. No takes by Level A harassment are expected to occur or are authorized.

Based on our evaluation of the applicant's measures in consideration of the increased estimated take for bottlenose dolphin, as well as the modified shutdown provisions for concurrent pile driving scenarios, NMFS has re-affirmed the determination that the required mitigation measures, as modified here, provide the means of effecting the least practicable impact on the affected species and their habitat.

Determinations

With the exception of the revised take numbers and shutdown procedures, the Navy's in water construction activities as well as monitoring and reporting requirements are unchanged from those in the initial IHA. The effects of the activity on the affected species and stocks, taking into consideration the modified mitigation and related monitoring measures, remain unchanged, notwithstanding the increase to the authorized amount of harbor seal take by Level A harassment, and to the authorized amount of bottlenose dolphin take by Level B harassment.

The takes from Level A and Level B harassment will be due to potential behavioral disturbance, temporary threshold shift (TTS), and potentially but unlikely, permanent threshold shift (PTS). No serious injury or mortality is anticipated given the nature of the activity and measures designed to minimize the possibility of injury to marine mammals. The potential for harassment is minimized through the construction

method and the implementation of the planned mitigation measures (see **Description of Mitigation**, **Monitoring and Reporting Measures** section).

The Level A harassment zones identified in Table 4 are based upon an animal exposed to pile driving or drilling multiple concurrent piles per day. Considering the short duration to drive each pile and breaks between pile installations (to reset equipment and move pile into place), means an animal will have to remain within the area estimated to be ensonified above the Level A harassment threshold for multiple hours. With the addition of concurrent pile driving, the Navy anticipates fewer construction days than with individual pile driving which will ultimately reduce exposure time for all species. Additionally, no Level A harassment is anticipated for humpback whales due to the required mitigation measures to shutdown to the full extent of the Level A harassment zone, which we expect the Navy will be able to effectively implement given the reasonable Level A harassment zone sizes and high visibility of humpback whales. If an animal was exposed to accumulated sound energy, the resulting PTS will likely be small (*e.g.,* PTS onset) at lower frequencies where pile driving energy is concentrated, and unlikely to result in impacts to individual fitness, reproduction, or survival.

The Navy's pile driving project precludes the likelihood of serious injury or mortality. For all species and stocks, take will occur within a limited, confined area (immediately surrounding NAVSTA Norfolk in the Chesapeake Bay area) of the stock's range. Level A and Level B harassment will be reduced to the level of least practicable adverse impact through use of mitigation measures described herein. Furthermore, the amount of take authorized is extremely small when compared to stock abundance.

There are three bottlenose dolphin stocks that could occur in the project area. Therefore, the estimated 29,882 incidents of dolphin take by Level B harassment will likely be split among the western North Atlantic northern migratory coastal stock, the western North Atlantic southern migratory coastal stock, and the northern North Carolina

Estuarine stock (NNCES), and is expected to involve repeated takes of a limited subset of individuals of these stocks. Based on the stocks' respective occurrence in the area, NMFS estimates that there will be no more than 200 takes from the NNCES stock, representing 24 percent of that population, with the remaining takes split evenly between the northern and southern migratory coastal stocks. Based on the consideration of various factors as described below, we have determined the number of individuals taken will comprise less than one-third of the best available population abundance estimate of either coastal migratory stocks. Detailed descriptions of the stocks' ranges have been provided in the Description of Marine Mammals in the Area of Specified Activities section of the initial IHA.

Both the northern migratory coastal and southern migratory coastal stocks have expansive ranges and they are the only dolphin stocks thought to make broad-scale, seasonal migrations in coastal waters of the western North Atlantic. Given the large ranges associated with these two stocks it is unlikely that large segments of either stock will approach the project area and enter into the Chesapeake Bay. The majority of both stocks are likely to be found widely dispersed across their respective habitat ranges and unlikely to be concentrated in or near the Chesapeake Bay

Furthermore, the Chesapeake Bay and nearby offshore waters represent the boundaries of the ranges of each of the two coastal stocks during migration. The northern migratory coastal stock is found during warm water months from coastal Virginia, including the Chesapeake Bay and Long Island, New York. The stock migrates south in late summer and fall. During cold water months, dolphins may be found in coastal waters from Cape Lookout, North Carolina, to the North Carolina/Virginia border. During January-March, the southern Migratory coastal stock appears to move as far south as northern Florida. From April-June, the stock moves back north to North Carolina. During the warm water months of July-August, the stock is presumed to occupy the coastal

waters north of Cape Lookout, North Carolina, to Assateague, Virginia, including the Chesapeake Bay. There is likely some overlap between the northern and southern migratory stocks during spring and fall migrations, but the extent of overlap is unknown.

The Chesapeake Bay and waters offshore of the mouth are located on the periphery of the migratory ranges of both coastal stocks (although during different seasons). Additionally, each of the migratory coastal stocks are likely to be located in the vicinity of the Bay for relatively short timeframes. Given the limited number of animals from each migratory coastal stock likely to be found at the seasonal migratory boundaries of their respective ranges, in combination with the short time periods (~2 months) animals might remain at these boundaries, it is reasonable to assume that takes are likely to occur only within some small portion of either of the migratory coastal stocks.

Many of the dolphin observations in the Bay are likely repeated sightings of the same individuals. The Potomac-Chesapeake Dolphin Project has observed over 1,200 unique animals since observations began in 2015. Re-sightings of the same individual can be highly variable. Some dolphins are observed once per year, while others are highly regular with greater than 10 sightings per year (Mann, Personal Communication). Similarly, using available photo-identification data, Engelhaupt *et al.* (2016) determined that specified individuals were often observed in close proximity to their original sighting locations and were observed multiple times in the same season or same year. Ninety-one percent of re-sighted individuals (100 of 110) in the study area were recorded less than 30 kilometers from the initial sighting location. Multiple sightings of the same individual will considerably reduce the number of individual animals that are taken by harassment. Furthermore, the existence of a resident dolphin population in the Bay will increase the percentage of dolphin takes that are actually re-sightings of the same individuals.

The increase in Level A harassment for harbor seal take corresponds to a commensurate decrease in the predicted number of Level B harassment, and the total

number of takes remains unchanged. Therefore, in consideration of this, the harbor seal stock abundance information discussed in the initial IHA and in the **Estimated Take** section above, we re-affirm that small numbers of harbor seals will be taken relative to the population size of the stock. Even in consideration of the increased numbers of take by Level A harassment, the impacts of these exposures may result in moderate injury to a limited number of harbor seals.

In conclusion, there is no new information suggesting that our analysis or findings should change.

Based on the information contained here and in the referenced documents, NMFS has determined the following: (1) the required mitigation measures will effect the least practicable impact on marine mammal species or stocks and their habitat; (2) the authorized takes will have a negligible impact on the affected marine mammal species or stocks; (3) the authorized takes represent small numbers of marine mammals relative to the affected stock abundances; and (4) The Navy's activities will not have an unmitigable adverse impact on taking for subsistence purposes as no relevant subsistence uses of marine mammals are implicated by this action, and (5) appropriate monitoring and reporting requirements are included..

Endangered Species Act (ESA)

Section 7(a)(2 of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species.

No incidental take of ESA-listed species is authorized or expected to result from this activity. Therefore, NMFS has determined that formal consultation under Section 7 of the ESA is not required for this action.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq*.) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our action (*i.e.*, the issuance of an IHA) with respect to potential impacts on the human environment.

This action remains consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NOAA Administrative Order 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that will preclude this categorical exclusion. Accordingly, NMFS has determined that the issuance of the modified IHA continues to qualify to be categorically excluded from further NEPA review.

Authorization

NMFS has issued a modified IHA to the Navy for the potential harassment of small numbers of five marine mammals species incidental to the Pier 3 Replacement project at Naval Station Norfolk at Norfolk, Virginia, that includes the previously explained mitigation, monitoring, and reporting requirements.

Dated: January 11, 2023.

Kimberly Damon-Randall,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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